

## **RESL CUSTOMER EXPORT CONTROL AGREEMENT**

It is the Radiological and Environmental Sciences Laboratory's (RESL) policy to conduct business in accordance with all applicable U.S. export control laws and regulations. It is also RESL's policy that its Customers comply with U.S. export control laws and regulations. Therefore, Customer agrees to the following:

1. Because products, technical data, and technical assistance (i.e., services) provided to Customer by RESL may be subject to U.S. export control laws and regulations, (i) transactions with certain persons and companies and (ii) the export or reexport of certain types and levels of products, technical data, and services are prohibited or restricted.
2. Customer acknowledges that it is responsible for its own compliance with U.S. export control laws and regulations. Customer further agrees that it assumes the responsibility to obtain all necessary U.S. export licenses or other U.S. governmental authorizations, as well as all liability for the failure to do so.
3. Customer acknowledges that export control requirements may change and that the export or reexport of RESL products, technical data, and services without an export license or other appropriate governmental authorization may result in criminal and/or civil liability.
4. The obligations and requirements described herein shall survive the expiration or termination of any agreement or contract between RESL and Customer.

### XaW29 Participating Laboratories

Lab Code	Lab Name	Matrix Code	Num Samples
ANTE01	ALS Environmental - Fort Collins, CO	XaW	1
AREV01	AREVA - CMC	XaW	1
ARSL01	ARS International, LLC	XaW	1
ASUK99	NAS Radiochemistry Group	XaW	2
AY1201	B&W Y-12, Analytical Chemistry Organization Laboratory	XaW	1
CDHS01	California Department of Public Health	XaW	1
CHMH01	222-S Laboratory	XaW	1
DRMG01	B&W Pantex - D&RMG	XaW	1
ERCL01	Washington State Public Health Laboratories	XaW	1
ESDG99	Radiation Laboratory	XaW	1
ESGL99	Environmental Scientifics Group	XaW	1
EULC01	EnergySolutions, LLC	XaW	1
FDHE01	Florida Dept of Health Environmental Laboratory	XaW	1
FDOH01	Florida Dept. of Health, Mobile Environmental Radiological Lab	XaW	1
GENE01	GEL Laboratories, LLC	XaW	1
LECR99	Centre for Ecology and Hydrology	XaW	1
MAHP59	Materials Assessment and Health Physics Group	XaW	1
NARL01	National Air and Radiation Environmental Laboratory	XaW	1
NARL02	USEPA - NAREL - MERL	XaW	1
NESI01	B&W Technical Services-Radioisotope & Analytical Chemistry Laboratory	XaW	1
NOCS99	National Oceanography Centre, Southampton	XaW	1
ORIS01	ORISE/IEAV	XaW	1
OTLI01	Outreach Technologies, Inc.	XaW	1
QUAN01	TestAmerica St. Louis	XaW	1
QUAN03	TestAmerica Laboratories - Richland	XaW	1
SAVA01	SAVANNAH RIVER NUCLEAR SOLUTIONS (SRNS)	XaW	1
SEML01	SRS Environmental Monitoring Laboratory	XaW	1
SNRC99	Soreq NRC	XaW	1
SOUT01	Southwest Research Institute	XaW	1
SRPD01	Sandia National Laboratories, Radiation Protection Sample Diagnostics	XaW	1
TELE02	Environmental, Inc., Midwest Lab	XaW	1
TMAO01	EBERLINE SERVICES OAK RIDGE LABORATORY	XaW	1
UQNP99	Qatar University- Nuclear Physics Lab	XaW	1
WEST03	Waste Sampling and Characterization Facility, MSA	XaW	1
WEST04	PACE ANALYTICAL SERVICES, PITTSBURGH	XaW	1
WSHL01	Wisconsin State Laboratory of Hygiene	XaW	1
<b>Total</b>		<b>XaW</b>	<b>37</b>

## Laboratories Not Reporting XaW29

<b>Lab Code</b>	<b>Lab Name</b>	<b>Matrix Code</b>
AREV01	AREVA - CMC	XaW
DRMG01	B&W Pantex - D&RMG	XaW
ESDG99	Radiation Laboratory	XaW
LECR99	Centre for Ecology and Hydrology	XaW
OTLI01	Outreach Technologies, Inc.	XaW
WEST04	PACE ANALYTICAL SERVICES, PITTSBURGH	XaW

## Study Reference Values

MAPEP-13-XaW29

*Radiological Reference Date: 08/01/2013*

Analyte	Ref Value	Ref Unc
Radiological		Units: (Bq/L)
Iodine-129	3.79	0.07

## Sample Statistical Summary

MAPEP-13-XaW29

*Radiological Reference Date: 08/01/2013*

Analyte	T(1)	A(2)	Grand(3) Mean	Std Dev	Ref Value	Ref Unc	Acceptance Range
Radiological							Units: (Bq/L)
Iodine-129	30	28	3.64	0.58	3.79	0.07	2.65 - 4.93

**Note:** (1) T = Total number of laboratories reporting analyte.  
 (2) A = Number of laboratories with 'Acceptable' performance.  
 (3) Mean excludes values derived as total metals and values indicated as "Not Acceptable".

### Other Flags:

A = Result acceptable Bias  $\leq 20\%$

W = Result acceptable with warning  $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias  $> 30\%$

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**Study: MAPEP-13-XaW29**

**Radiological**

Analyte	A	W	RW	N
Iodine-129	23	5		2



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (ANTE01) ALS Environmental - Fort Collins, CO  
 225 Commerce Drive  
 Fort Collins, CO 80524-1416

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.9	3.79	A		2.9	2.65 - 4.93	1.0	H

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(ARSL01) ARS International, LLC

2609 North River Road

Port Allen, LA 70767

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.843	3.79	A		1.4	2.65 - 4.93	0.694	

*Radiological Reference Date: August 1, 2013*

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Laboratory Results For MAPEP-13-XaW29  
 (ASUK99) NAS Radiochemistry Group  
 A38.1 AWE,  
 Reading, Berkshire RG7 4PR

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.14	3.79	A		-17.2	2.65 - 4.93	1.36	H

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(AY1201) B&W Y-12, Analytical Chemistry Organization Laboratory

Y12, NSC, Bldg. 9995, Rm 142

Oak Ridge, TN 37831-8189

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.11	3.79	A		8.4	2.65 - 4.93	1.2	H

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (CDHS01) California Department of Public Health  
 Drinking Water & Radiation Lab.  
 Richmond, CA 94804-6403

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.35	3.79	A		14.8	2.65 - 4.93	0.26	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (CHMH01) 222-S Laboratory  
 P.O. Box 250, MS T6-10  
 Richland, WA 99352

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	1.64	3.79	N		-56.7	2.65 - 4.93	0.477	H

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (ERCL01) Washington State Public Health Laboratories  
 1610 N.E. 150th Street  
 Shoreline, WA 98155-9701

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.62	3.79	A		-4.5	2.65 - 4.93	.08	L

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (ESGL99) Environmental Scientifics Group  
 Unit 12 Moorbrook  
 Didcot, Oxfordshire OX11 8QT

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.42	3.79	A		-9.8	2.65 - 4.93	0.46	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (EULC01) EnergySolutions, LLC  
 I-80, Exit 46  
 Clive, UT 84029

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.732	3.79	A		-1.5	2.65 - 4.93	.203	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (FDHE01) Florida Dept of Health Environmental Laboratory  
 PO Box 680069  
 Orlando, FL 32868-0069

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.9	3.79	W		29.3	2.65 - 4.93	0.4	

Radiological Reference Date: August 1, 2013

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(FDOH01) Florida Dept. of Health, Mobile Environmental Radiological Lab  
 PO Box 680069  
 Orlando, FL 32868-0069

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	2.7	3.79	W		-28.8	2.65 - 4.93	0.2	

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (GENE01) GEL Laboratories, LLC  
 2040 Savage Road  
 Charleston, SC 29407

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.62E00	3.79	A		-4.5	2.65 - 4.93	2.31E-01	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (MAHP59) Materials Assessment and Health Physics Group  
 Imperial College Reactor Centre  
 Ascot, Berkshire SL5 7TE

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.14	3.79	A		-17.2	2.65 - 4.93	0.92	H

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(NARL01) National Air and Radiation Environmental Laboratory  
 540 S. Morris Ave.  
 Montgomery, AL 36115-2601

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.25	3.79	A		12.1	2.65 - 4.93	0.744	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(NARL02) USEPA - NAREL - MERL

540 S Morris Ave

Montgomery, AL 36115

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	2.77	3.79	W		-26.9	2.65 - 4.93	0.228	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(NESI01) B&W Technical Services-Radioisotope & Analytical Chemistry Laboratory  
 Lynchburg Technology Center  
 Lynchburg, VA 24504-5447

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	2.68	3.79	W		-29.3	2.65 - 4.93	0.279	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (NOCS99) National Oceanography Centre, Southampton  
 GAU-Radioanalytical  
 Southampton, Hampshire SO14 3ZH

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.5	3.79	A		18.7	2.65 - 4.93	0.5	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (ORIS01) ORISE/IEAV  
 PO Box 117  
 Oak Ridge, TN 37831-0117

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.57	3.79	A		-5.8	2.65 - 4.93	0.34	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(QUAN01) TestAmerica St. Louis

13715 Rider Trail North

Earth City, MO 63045-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.18	3.79	A		10.3	2.65 - 4.93	0.162	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (QUAN03) TestAmerica Laboratories - Richland  
 2800 GEORGE WASHINGTON WAY  
 RICHLAND, WA 99354-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.95	3.79	A		4.2	2.65 - 4.93	0.220	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (SAVA01) SAVANNAH RIVER NUCLEAR SOLUTIONS (SRNS)  
 SRNL (non-purchased material receipt)  
 AIKEN, SC 29808-0000

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.23	3.79	A		-14.8	2.65 - 4.93	0.215	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (SEML01) SRS Environmental Monitoring Laboratory  
 Bldg 735-B  
 Aiken, SC 29808

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.80	3.79	A		0.3	2.65 - 4.93	0.39	

*Radiological Reference Date: August 1, 2013*

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (SNRC99) Soreq NRC  
 Radioactivity Measurement Section  
 Yavne, Israel 81800

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.5	3.79	A		-7.7	2.65 - 4.93	0.9	H

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (SOUT01) Southwest Research Institute  
 6220 Culebra Rd.  
 San Antonio, TX 78228-0510

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.19	3.79	A		10.6	2.65 - 4.93	0.254	

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Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(SRPD01) Sandia National Laboratories, Radiation Protection Sample Diagnostics  
 PO Box 5800, MS1103  
 Albuquerque, NM 87185-1103

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.60	3.79	A		-5.0	2.65 - 4.93	0.80	H

*Radiological Reference Date: August 1, 2013*

**Other Flags:**

A = Result acceptable Bias  $\leq$  20%

W = Result acceptable with warning  $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias  $> 30\%$

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

RW = Report Warning

NR = Not Reported



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (TELE02) Environmental, Inc., Midwest Lab  
 700 Landwehr Road  
 Northbrook, IL 60062-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	2.75	3.79	W		-27.4	2.65 - 4.93	0.20	

*Radiological Reference Date: August 1, 2013*

**Other Flags:**

A = Result acceptable Bias  $\leq 20\%$

W = Result acceptable with warning  $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias  $> 30\%$

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

RW = Report Warning

NR = Not Reported



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (TMAO01) EBERLINE SERVICES OAK RIDGE LABORATORY  
 601 SCARBORO RD  
 OAK RIDGE, TN 37830-

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	4.111	3.79	A		8.5	2.65 - 4.93	.390	

*Radiological Reference Date: August 1, 2013*

**Other Flags:**

A = Result acceptable Bias  $\leq 20\%$

W = Result acceptable with warning  $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias  $> 30\%$

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

RW = Report Warning

NR = Not Reported



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (UQNP99) Qatar University- Nuclear Physics Lab  
 Physics Department  
 Doha, QA 2713

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	1	3.79	N		-73.6	2.65 - 4.93	1	H

*Radiological Reference Date: August 1, 2013*

**Other Flags:**

A = Result acceptable Bias  $\leq 20\%$

W = Result acceptable with warning  $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias  $> 30\%$

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

RW = Report Warning

NR = Not Reported



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

*Laboratory Results For MAPEP-13-XaW29*

(WEST03) Waste Sampling and Characterization Facility, MSA  
 PO Box 650, S3-30  
 Richland, WA 99352

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.16	3.79	A		-16.6	2.65 - 4.93	.419	

*Radiological Reference Date: August 1, 2013*

**Other Flags:**

A = Result acceptable Bias  $\leq 20\%$

W = Result acceptable with warning  $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias  $> 30\%$

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

RW = Report Warning

NR = Not Reported



Department of Energy RESL - 1955 Fremont Ave, MS4149 - Idaho Falls, ID 83415

Laboratory Results For MAPEP-13-XaW29  
 (WSHL01) Wisconsin State Laboratory of Hygiene  
 2601 Agriculture Drive  
 Madison, WI 53718

Radiological							Units: (Bq/L)	
Analyte	Result	Ref Value	Flag	Notes	Bias (%)	Acceptance Range	Unc Value	Unc Flag
Iodine-129	3.0743	3.79	A		-18.9	2.65 - 4.93	0.1278	

*Radiological Reference Date: August 1, 2013*

**Other Flags:**

A = Result acceptable Bias  $\leq 20\%$

W = Result acceptable with warning  $20\% < \text{Bias} < 30\%$

N = Result not acceptable Bias  $> 30\%$

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

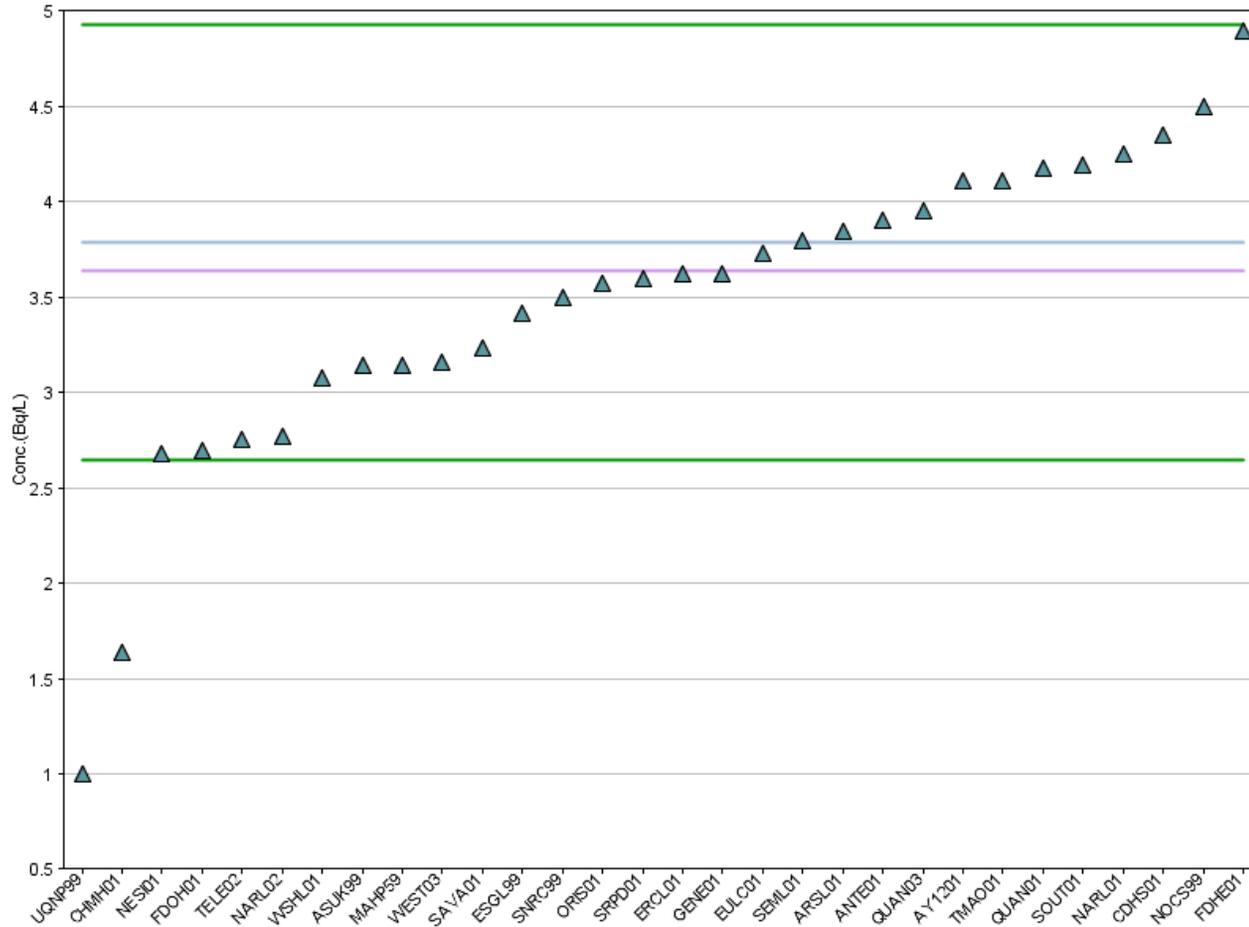
RW = Report Warning

NR = Not Reported

# Iodine-129

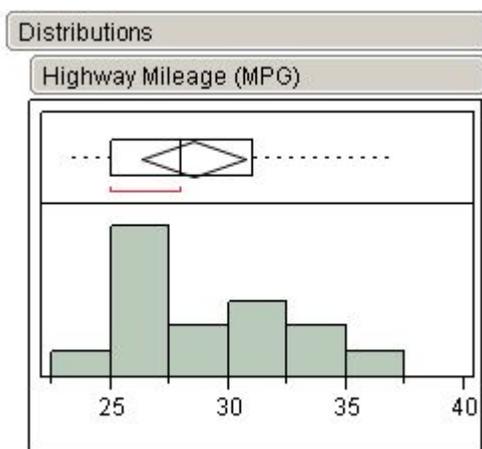
## MAPEP-13-XaW29

Ref. Value — 3.79 Mean — 3.64 Acc. Range —

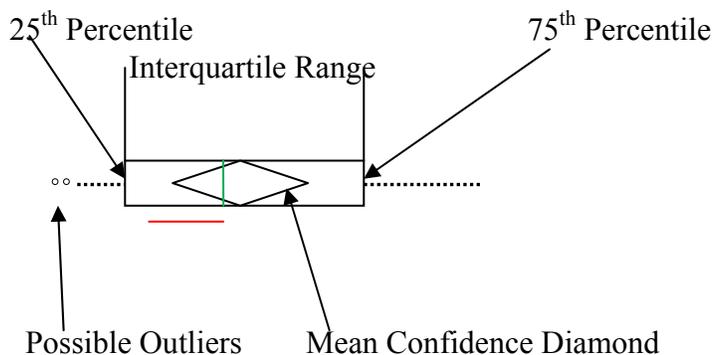


Note: This chart shows only data points with values between 0.73 and 6.54 ( $\pm 5$  Standard Deviations)

The intent of the distribution graphs contained within this report is to graphically demonstrate to users how % Bias data within the current MAPEP Series appears when examined by matrix, by analyte, by method of sample preparation or by method of detection. The data points (small 'dots') plot the bias (or z-score for organic constituents) of each of the analytes in each of the matrices. The BLACK small vertical line inside the small rectangle at the top of the data distribution graph is the mean of the population of the bias shown for that analyte in the matrix.



Moments	
Mean	28.466667
Std Dev	3.9797104
Std Err Mean	1.0275568
Upper 95% Mean	30.670557
Lower 95% Mean	26.262776
N	15
Sum Wgt	15
Sum	427
Variance	15.838095
Skewness	0.7309964
Kurtosis	-0.165153
CV	13.980247
N Missing	0



The box plots summarize the distribution of points for each analyte. The ends of the box are the 25th and 75th quantiles. The difference between the quartiles is the interquartile range. The line across the middle of the box identifies the median bias value. Each box has lines, sometimes called whiskers, which extend from each end. The whiskers extend from the ends of the small box to the outermost data point that falls within the distances computed. Any potential outliers are represented as small black dots.

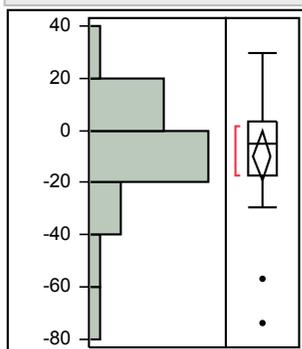
The box plot of the bias data points and the mean visually illustrate the breadth of the distribution and where any potential outliers in the distribution might lie. The moments for the distribution plot are provided below the Bias plot. In some cases, N becomes very small and thus developed statistics may not accurately reflect estimates of the population if N were a significantly larger value.

# XaW Distribution by Detection Method

## XaW Distribution by Detection Method

Distributions Analyte\_Detection=Iodine-129 Gamma Spectrometry

### Bias



### Quantiles

100.0%	maximum	29.3
99.5%		29.3
97.5%		29.3
90.0%		15.4
75.0%	quartile	3.5
50.0%	median	-5.4
25.0%	quartile	-17.2
10.0%		-43
2.5%		-73.6
0.5%		-73.6
0.0%	minimum	-73.6

### Summary Statistics

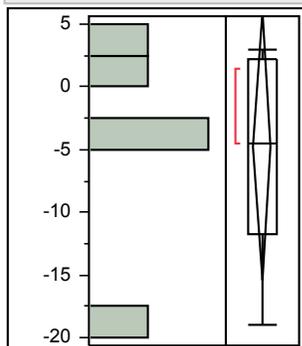
Mean	-9.875
Std Dev	22.421947
Std Err Mean	4.5768607
Upper 95% Mean	-0.407042
Lower 95% Mean	-19.34296
N	24

# XaW Distribution by Prep Method

## XaW Distribution by Prep Method

Distributions Analyte\_Method=Iodine-129 Ion Exchange Chromatography / Ion Chromatography

### Bias



### Quantiles

100.0%	maximum	2.9
99.5%		2.9
97.5%		2.9
90.0%		2.9
75.0%	quartile	2.15
50.0%	median	-4.5
25.0%	quartile	-11.7
10.0%		-18.9
2.5%		-18.9
0.5%		-18.9
0.0%	minimum	-18.9

### Summary Statistics

Mean	-4.72
Std Dev	8.6123168
Std Err Mean	3.8515451
Upper 95% Mean	5.9736037
Lower 95% Mean	-15.4136
N	5

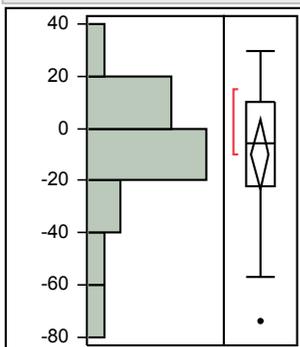
# XaW Distribution by Prep Method

## XaW Distribution by Prep Method

Distributions Analyte\_Method=Iodine-129

No preparation - analyzed as received

### Bias



### Quantiles

100.0%	maximum	29.3
99.5%		29.3
97.5%		29.3
90.0%		20.82
75.0%	quartile	10.25
50.0%	median	-5.8
25.0%	quartile	-22.05
10.0%		-60.08
2.5%		-73.6
0.5%		-73.6
0.0%	minimum	-73.6

### Summary Statistics

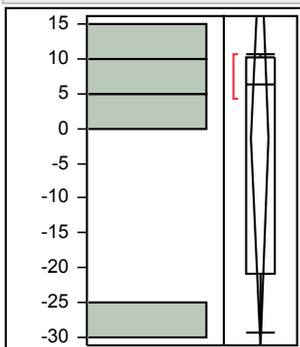
Mean	-9.8
Std Dev	26.225465
Std Err Mean	6.3606095
Upper 95% Mean	3.6838897
Lower 95% Mean	-23.28389
N	17

# XaW Distribution by Prep Method

## XaW Distribution by Prep Method

Distributions  
Analyte\_Method=Iodine-129 Other

### Bias



### Quantiles

100.0%	maximum	10.6
99.5%		10.6
97.5%		10.6
90.0%		10.6
75.0%	quartile	10.075
50.0%	median	6.35
25.0%	quartile	-20.925
10.0%		-29.3
2.5%		-29.3
0.5%		-29.3
0.0%	minimum	-29.3

### Summary Statistics

Mean	-1.5
Std Dev	18.723782
Std Err Mean	9.3618908
Upper 95% Mean	28.293715
Lower 95% Mean	-31.29371
N	4